

What is claimed is:

1. A composition comprising: a block copolyarylestercarbonate and a ionizing radiation stable additive, wherein said copolyarylestercarbonate comprises an organic carbonate block and at least one arylate block, said arylate block comprising arylate structural units derived from at least (a) one 1,3-dihydroxybenzene moiety, and (b) at least one aromatic dicarboxylic acid moiety, wherein the arylate block has a with a degree of polymerization of 1 or greater, and wherein the composition is ionizing radiation stable.
2. The composition of claim 1, wherein the aromatic dicarboxylic acid moiety is selected from the group consisting of isophthalic acid, terephthalic acid, a halogen-substituted derivative of isophthalic acid, a halogen-substituted derivative of terephthalic acid, and a mixture thereof.
3. The composition of claim 2, wherein the ratio of arylate structural units derived from isophthalic acid or acid halide to terephthalic acid or acid halide is from 1:1 to 4:1.
4. The composition of claim 1, wherein the organic carbonate blocks are derived from bisphenols selected from the group consisting of bisphenol-A, 1,3-dihydroxybenzene, and mixtures thereof.
5. The composition of claim 1, wherein the at least one aromatic dicarboxylic acid moiety comprises a mixture of isophthalic acid or acid halide and terephthalic acid or acid halide in a molar ratio of about 1:1, and further wherein the organic carbonate block is derived from bisphenol-A.
6. The composition of claim 1, wherein the arylester content in the copolyarylestercarbonate composition is between 10 wt % to 99% wt % based on the weight of the copolyarylestercarbonate.
7. The composition of claim 1, wherein the arylester block has a weight averaged molecular weight of between 2000 to about 20,000.

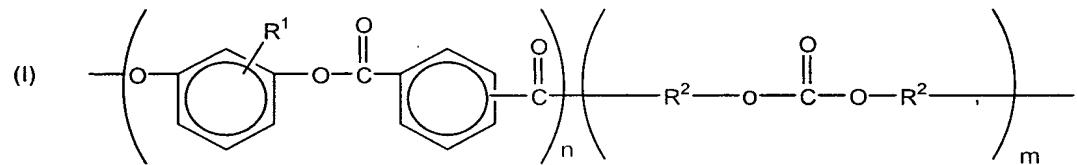
8. The composition of claim 1, wherein, the composition further comprises one or more polycarbonate resins.
9. The composition of claim 1, wherein the ionizing radiation stabilizing additive is selected from a group consisting of a bromine containing additive, a sulfide containing additive and an aliphatic alcohol additive.
10. The composition of claim 9, wherein the ionizing radiation stable additive is selected from a group consisting of polyethylene glycol, polypropylene glycol and hexylene glycol.
11. The composition of claim 10, wherein the ionizing radiation stable additive is hexylene glycol.
12. The composition of claim 11, wherein the hexylene glycol is present in the ionizing radiation stable composition in the range of 0.01 to 1 wt % based on the total weight of the ionizing radiation stable composition.
13. A method for preparing an ionizing radiation stable composition comprising the steps of:
  - preparing a block copolyarylestercarbonate comprising an organic carbonate block and at least one arylate block, said arylate block comprising arylate structural units derived from: (a) at least one 1,3-dihydroxybenzene moiety, and (b) at least one aromatic dicarboxylic acid moiety, wherein the arylate block has a degree of polymerization of 1 or greater, and
  - combining the block copolyarylestercarbonate with an ionizing radiation stable additive.
14. An ionizing radiation stable article comprising: a block copolyarylestercarbonate and an ionizing radiation stabilizing additive, wherein said copolyarylestercarbonate comprises an organic carbonate block and at least one arylate block, said arylate block comprising arylate structural units derived from: (a) a 1,3-dihydroxybenzene, and (b) at least one aromatic dicarboxylic acid moiety, wherein the arylate block has a degree of polymerization of 1 or greater.

15. A medical device comprising a composition that comprises a block copolyarylestercarbonate, wherein the copolyestercarbonate comprises an organic carbonate block and at least one arylate block, said arylate block comprising arylate structural units derived from (a) at least one 1,3-dihydroxybenzene moiety, and (b) at least one aromatic dicarboxylic acid moiety, wherein the arylate block has a degree of polymerization of 1 or greater.
16. The medical device of claim 15, which further comprises a ionizing radiation stabilizing additive.
17. A medical device comprising a composition that comprises a block copolyestercarbonate, wherein the copolyestercarbonate comprises an organic carbonate block and at least one arylate block, said arylate block comprising arylate structural units derived from: (a) at least one 1,3-dihydroxybenzene moiety, and (b) at least one aromatic dicarboxylic acid moiety, wherein the arylate block has a degree of polymerization of 1 or greater, and wherein the composition has a yellowness shift of less than 40 yellowness index units after sterilization with 75 kGY of ionizing radiation.
18. An article comprising a composition that comprises a block copolyarylestercarbonate, wherein the copolyestercarbonate comprises an organic carbonate block and at least one arylate block, said arylate block comprising arylate structural units derived from (a) at least one 1,3-dihydroxybenzene moiety and at least one aromatic dicarboxylic acid moiety wherein the arylate block has a degree of polymerization of 1 or greater, and wherein the composition further comprises an ionizing radiation stabilizing additive and has a yellowness shift of less than 30 yellowness index units after sterilization with 75 kGY of ionizing radiation.
19. The article according to claim 18, wherein the composition has a yellowness shift of less than 5 yellowness index units when a photobleaching steady state condition is reached after sterilization with 25 kGy of ionizing radiation.

20. A process for sterilizing a medical device which comprises applying ionizing radiation to the medical device, wherein the medical device comprises a composition, and wherein said composition comprises a block copolyarylestercarbonate that comprises an organic carbonate block and at least one arylate block, said arylate block comprising arylate structural units derived from (a) a 1,3-dihydroxybenzene moiety and (b) at least one aromatic dicarboxylic acid moiety, wherein the arylate block has a degree of polymerization of 1 or greater.

21. The process for sterilizing a medical device according to claim 20, wherein the composition further comprises ionizing radiation stabilizing additive.

22. The composition according to claim 1, wherein the composition has the formula I:



wherein m is an integer 1 or greater and n is an integer of 1 or greater.

23. The composition according to claim 22, wherein R¹ is hydrogen, R² is selected from the group consisting of resorcinol and bisphenol-A; and the copolyarylestercarbonate has end groups selected from the group consisting of hydroxyl groups, carboxylic acid groups, phenyl groups, and mixtures thereof.